REMARKS

Reconsideration of the subject application as amended herein is respectfully requested.

The claims have been amended to correct some informalities. New claims 10, 11 and 12 are also presented which further recite that the cochlea or the organ of Corti have receptors and that the location of the electrodes is determined based on the position of these receptors.

The claims have been rejected as being anticipated by or obvious over the Hochmair patent and references. The Applicants respectfully traverse these rejections.

Briefly, it was known at the time when the references were published that the cochlea is tonotopically mapped and that specific regions of the cochlea respond to stimulation signals of specific frequencies. Prior to the present invention, in order to take advantage of this natural aspect of the cochlea, the general approach taken by manufacturers was to construct intra-cochlear electrode arrays with equidistant electrodes. Once the arrays were inserted, the electrodes were tested to determine which cochlear regions were stimulated by which frequencies. After this mapping operation, certain of the electrodes were assigned to corresponding channels. Of course, a problem with this approach is that, since the receptor regions within the cochlea are not positioned evenly, the electrodes were not positioned optimally.

The present invention presents a significant improvement over the conventional approach by providing an electrode array with electrodes that are not spaced evenly, but instead are spaced at locations that are optimized based on the natural characteristics and locations of the cochlear receptors.

The Hochmair references were published some twenty years ago, at a time when cochlear implants were essentially experimental devices and the state of the art was relatively immature. These references each describe that electrodes are inserted into the cochlea and then specific frequency ranges are assigned to the electrodes in the standard manner well known in the art.

The Examiner takes the position that the references disclose the present invention. However, as discussed above, the standard approach prior to the present invention was to (1) position the electrodes of an array so that they are evenly spaced with respect to each other ; and (2) implant the array; and (3) determine which electrodes are to be assigned to which frequency ranges. It is respectfully submitted that nowhere is there in this reference an express teaching that the electrodes should not be equidistant. Similarly nowhere do these references disclose that the position of the electrodes prior to implanation must be determined in accordance with the positions of the targeted ~~receptors of the~~ cochlea. Thus it is submitted that the cited references do not anticipate the present invention.

Moreover , Hochmair at el while recognizing that the cochlea is mapped tonotopically, they failed to realize that it is much more efficient to space the electrodes in such a manner that after implantation they match the positions of the receptors.

It is respectfully submitted that the Examiner has failed to make out a prima facie case of anticipation or obviousness and accordingly this application should be allowed.

The Commissioner is hereby authorized to charge indicated fees and credit any

overpayment to: Deposit Account #07-1730.

Respectfully submitted,
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